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An Inaugural Dissertation

on

Pneumonia

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Of Pneumonia

The denomination of pneumonia has been given to every inflammatory affection of the viscera of the Thorax or the membrane lining the interior surface of that cavity, and covering its contents.

In attempting to characterize this disease, to point out what I conceive to be its principal remote causes, and best method of cure. I wish to be understood to speak of Pneumonia, as implying and including, every inflammatory affection of the viscera of the thorax, not excited by a specific contagion, or the translation of other diseases to those parts. The particular forms of this disease described under the denominations of Pneumonia-notha and Peripneumony, under equal circumstances, and the same state of the system, have no particular indication of cure, different, from that form of the disease termed Pleurisy. hence why those terms are useless. Dr Huxam (than whom no one has been a more nice observer of the symptoms, remote causes, and cure of disease) seems

to have foreseen the necessity for the doctrine of the unity of disease when in speaking of that form of Pneumonic-fever termed Peripneumonia-notha he thus points out the uselessness of names as indications of cure. "As there are many intermediate states, between the violent inflammatory Peripneumony, and the last mentioned," (meaning a slight Pneumonia-notha brought on by a peculiar determination of fluids to the lungs) "no distinct settled method of cure can be laid down; because the peripneumonic malady, to be immediately treated of, may sometimes incline much more to the inflammatory state, and sometimes much less. For a disease is a disorder in the animal oeconomy, distinguished indeed by such and such particular symptoms, and called by such or such a name; but each particular disease in every individual patient is to be considered by the attending Physician, not according to the Nomenclature, but according to the nature causes and symptoms of the particular disease in

that particular person: and measures should be taken accordingly.— Thus if I meet with a great load and uneasiness at the breast, a difficult hot breathing, cough &c. with a full strong quick pulse, or a very tense and hard one, in a strong and vigorous person: I have a sufficient warranty to be much more free and frequent in bleeding, than where the oppression, cough, &c. are not attended with such a rapid and strong, or quick and tense pulse; especially if I previously knew the labouring person to be of weak, lax or phlegmatic Constitution [1] The usual epidemical diseases of this part of our Country might I believe be divided into two general classes, which may be denominated the cold and hot weather fevers; the first principally attack the contents of the Thorax, and the latter the Intestines and other Abdominal viscera. The diseases of each of these Classes are frequently attended

(1 Huxam on fevers, page 224. 225.)

=ed with symtoms of their opposite class of Fevers; thus Pneumonia is often accompanied with billious discharges by vomiting and stool, whilst billious fevers are as frequently attended with inflamation, pain and effusion in the thoracic viscera. In some seasons Pneumonia has been so strongly marked with billious symtoms as to obtain the appellation of billious Pleurasy.

Pneumonia has been placed by Dr Cullen in his Class of Pyrexiæ under the head of Phlegmasia and by all who think that disease is to be divided into genera and species this will be considered as correct, whilst they who have adapted the principals of the improved state of our Science as taught in this University by the Professor of the Institutes and Practice of Medicine will look upon such Classification, equally useless and hurtful to the improvement of Medicine, as were those unmeaning Characters in Chymistry, to its

its improvement.

Of the Symtoms of Pneumonia

The symtoms of this disease are cold shivering, followed by increased heat, increased frequency, hardness, and tention of the pulse, dyspnea, cough, pain in some part of the Thorax. — Pneumonia usually attacks by a chilly fit, with flying pains in various parts of the thorax, vomiting sometimes accompanies the chilly fit: these symtoms are soon succeeded by quick breathing, great thirst, a sensation of increased heat, head-ach and other feverish symtoms: in a short time the breathing becomes difficult and laborious, stitches in the side accompany every full inspiration, the irritation in the lungs and the desire to cough though great, coughing is performed with difficulty and violent pain

In the progress of Pneumonia the pains change their situation, rambling, as it were, over the whole Thorax and patients complain

alternately

alternately of their limbs and breast, the vom:itings in a fit of pleurisy are frequently billious, the rambling pains often become for a time fixed in the left hypochondric region of the abdomen, and the bowels are not always exempt from disease. When one side is principally affected the patient can lay only on the opposite side, but often the inflammation and pain becomes ex:tensive and the patient can lay only on his back and frequently desires to be propt up by having something laid under his shoul:ders. Drowsiness often accompanies Pneumonia while at other times patients in this disease become delirious and are troubled with ex:travagant dreams, fancying their attend:ants are attempting to destroy them. Blood drawn from a vein in the first stages of this disease shews an inflammatory crust, or the gluten separated from the crassamen:tum and lying on its surface whilst the

crassamentum

crassamentum is floating in the serum.
Dissections after death from Pneumonia have
discovered that violent inflammations have
for the most part preceded that event;
the principal marks that are evidences
of this, are adhesions of the lungs to the
mediastinum, diaphragm and inner sides
of the thorax, abscesses in the lungs also
collections of matter in the thorax in which
the lungs seem to float, the pleura is
frequently found to be greatly thickened and
covered with a whitish crust.

Cleghorn in speaking of a bilious pleurisy
that prevailed in Minorca thus characterizes
it "These Pleurisies begin commonly like an
ague-fit, with shivering and shaking, flying
pains all over the body, bilious vomitings and
purgings, which were soon succeded by quick breath
ing, immoderate thirst, inward heat, head-ach
and other feverish symtoms. In a few hours
the respiration becomes more difficult and la=
borious

borious; the most part of the sick being seized with stitches in their sides, striking upwards to the clavicle, and shoulder blade; obliquely downwards along the cartilages of the bastard ribs; or else darting across from the breast-bone to the vertebræ of the back; so that they could neither cough, nor make a full inspiration without great pain. Many complained stiffly of a load and oppression in their breast, as if a mill-stone had been laid upon it; some of a heaviness and fluttering about the heart, which at one time seemed to glow with extraordinary heat at another to be chilled with cold as if it had been dipt in ice-water. In a few of the sick, these complaints preceded the fever, in others they did not come till the day after."

"In the progress of the disease it was not uncommon for the pains to move about in the thorax from one place to another. Sometimes they would shift from the breast to the limbs, and of a sudden return to the bowels; and I have seen cases wherein, after leaving one side, they

have attacked the other unexpectedly, and proved fatal in a very short time. the left side of the thorax was not near so liable to be affected as the other; forty-two out of sixty patients who were seized about the same time, having had the disease in the right. But whichsoever side was affected, the sick lay easiest on the opposite: though the generality were obliged to lie upon their backs, or sit up in bed with their heads erect. Many were drowsy and inclinable to sleep but they waked at intervals, or were much disturbed with extravagant dreams. Some laughed in their sleep; others would awake in a freight and start out of bed, imagining that the house was in flames; that those about them were endeavouring to push them over a precipice; to pierce their sides with daggers; to bind them with cords, or iron hoops, and things of the like nature.[1] I have been induced to quote this much of that valuable author from the description he has given of Pneumonia answering

[1] Clegham on the epidemical disease of Athens page 161-2&3

so well its character as it sometimes appears in the western part of New-Jersey particularly in the spring of the year, when in the preceding summer and fall billious fevers have been prevalent. The heat of the body in pneumonia is sometimes but moderately increased, whilst in other cases, and that for the most part it is so great as to raise the mercury in Farenheights thermometer several degrees above an hundred. The pulse is usually considerably augmented in frequency, tention and force but in some instances of most violent state of this disease, it is irregular, and instead of being increased in tention and force it is considerably demenished, or greatly resembling that of a man in health. In cases of the last description the colour and consistance of the blood is not to be depended upon as a prognostic sign nor as an indication of Cure.

The brain is for the most part considerably affected producing delirium, which is evinced

vinced by those extravigant conceits heretofore noticed, and dissections of the brain in this disease have frequently discovered inflamation and effusion in it. In Pneumonia unattended with billious discharges, the bowels become costive, unless assiduously opened by cathartic medicines, given by the mouth or injected into the bowels. —

Of the Remote causes of Pneumonia

The principal remote causes of Pneumonia are heat alternating with cold; particularly cold applyed to the body checking perspiration, this seems to be the cause why this disease so often attacks in the spring and fall of the year. Other remote causes produce Pneumonia such as straining or otherwise injuring the pneumonic organs, both of these causes act more certainly to produce it when there is a predisposition, by an inflammatory diathesis prevailing in the system.

Persons most liable to be affected with this disease are they who are athletic and vigorous of plethoric habits who digest their food easily. Those least subject to this complaint are such as are of lax and debilitated habits bad digestion and an indolent disposition. It has long been observed that they who complain of acidity of the stomach are little subject to Pneumonia

Dr Darwin speaking of this disease as it appears in a simple inflamation of the pleura says, "One cause of pleurisy is probably a previous adhesion of the lungs to a part of the pleura which envelops them

This in many cases has been produced in infancy by suffering children to be too long on one side, or by placing them uniformly on one side of a fire, or window to which they will be liable always to bend themselves." Dr Darwins opinion in this

case

case seems to have some additional weight and is rendered satisfactorily probable when we reflect on the fact, that persons once having had pneumonia are more liable to its recurrence. I have said that one of the principal remote causes of pneumonia is heat alternating with cold this is evidenced in persons who use violent exercise and thereby being on a profuse perspiration which if suffered suddenly to subside by exposure to cold air frequently brings on this disease: from this circumstance labourers are most liable to be affected with it.

Violent respiration is another remote cause of pneumonia hence those who play on wind-instruments that require violent exertions of the respiratory organs become affected with it.

A stream of cold air passing over the body or exposing the feet to cold and moisture sometimes brings on Pneumonia.

Pneumonia sometimes takes on the form of an intermittant of the tertian type but oftener that of a remittant, there is rearely an entire suspension of the symtoms exacerbations are obvious which are usually in the afternoon.

The proximate cause of Pneumonia; I take to be the same as in other febrile diseases. viz Convulsive action of the sanguiferous system, but which in the first instance is local, produced by the predisposing debility that takes place in the lungs from sudden changes in the temperature of the atmosphere, acting upon them

of The Prognosis in Pneumonia.

The prognosis in Pneumonia must be taken from the state of the following symtoms. 1st The circumstances that denote a violent state of disease are.

First, violent pyrexia this is denoted by fullness, frequency, and hardness of the pulse, dry white tongue, fiery red colour of the eyes

eyes 2d Difficulty of breathing attended with flushings of the face 3d Partial sweats, 4th violent dry cough, 5 Acute pain, the sudden translation of pain from one place to another. 6th Delirium, There is also such violent diseased action in some cases as to immediately prostrate the system below reaction, this will be evidenced by irregularity and weakness of the pulse attending the first days of the disease, accompanied with uncommon dullness, or slight redness of the eyes, stupor, or delirium, the tongue white and parched, or of a dark or yellow colour. 2d The disease may be considered as moderate, when the preceding symptoms are most of them absent; or if present, they are mild. The signs from which we may pronounce, that the patient will recover, with the most certainty, are his being able to sleep sound in a natural posture, to make a full inspiration, without difficulty, while

while his thirst and inward heat are mode-
rate. — Terminations of Pneumonia —

Pneumonia like other inflammatory af-
fections, is liable to terminate by resolution,
suppuration, and Gangrene, it also has a
termination peculiar to itself, which is,
by an effusion of red blood into the cel-
lular texture of the lungs.

The tendency to resolution will
be known by some cessation of the violence
of the symptoms, accompanied with fre-
quent and plentiful expectoration of viscid
mucus without hard coughing.

That suppuration has taken
place will appear by the acute pain giving
place to a more dull one, by frequent cold
shiverings and often by a sense of weight
and fluctuation of fluid in some part of
the Thorax. — Dr Darwin speaking of
the suppurative state of Pleurisy ~~observes~~
observes

observes that "When matter is produced during peripneumony or pleurisy in one side of the chest, so long as it is a con-cealed vomica, the fever continues, if the disease be great, for many weeks, and even months; and requires occasional venesection, till the patient sinks under the inflammatory or sensative, irritated fever. But if air be admitted, by a part of the abscess opening itself a way into the air-vessels of the lungs, a hectic fever, with colliquative sweats or diarrhœa, supe-venes, and frequently destroys the patient; or the abscess heals the lungs adhere-ing to the pleura."

The matter produced by suppuration following pneumonia, is fre-quently discharged by expectoration and the patient does well; whilst at others, an empyema takes place and produces suffocation. — That gangrene has taken place may be known by "a purulent spit-

spitting streaked with deep coloured blood or blackish matter; a fœtid breath, a rattling in the throat a dejected counte:nance, a dim eye, languid pulse, blood drawn from a vein void of the inflam:matory crust; fœtid green stools urine of a bright colour or depositing a black sediment of a scaly appearance"

"The sudden suspension of pain after violent disease is a premonitory sign that either suppu:ration or gangrene has taken place, if attended with chills we may sus:pect suppuration, unless some of the most evident marks of gangrene appear.

When effusion of red blood into the cellular texture of lungs termi:nates Pneumonia, unless immediate suffocation is the consequence, it will be known by the expectoration of blood.

This disease has been known to terminate by the discharge of blood from the nose followed by a profuse universal sweat

Of the prevention of Pneumonia.

Though prophylactics are rarely prescribed by a Phisician, from the little regard paid to such prescriptions when given to his patients, or the little credit reflected when they have been prescribed with success; yet a knowledge of those precautions which have a tendency to prevent disease, is a constituent part of the necessary knowledge, of every Phisician. Under this consideration, I am induced to mention those rules which it is necessary to follow, to prevent that state of disease under consideration: they may be comprehended in a few words.

Keep the head warm and the feet dry avoid all exertions that will produce violent respiration or profuse perspiration particularly in the changeable seasons of Spring and of fall: when great heat and profuse perspiration are induced, suffer both to subside gradually, by continueing moderate exercise, or by

entering an apartment in which the air is warmer than that, in which this state of the system was brought on, avoid all active stimulents in that state of the system also for some time after it has subsedes.

I come now to consider the cure of Pneumonia and shall give a short sketch of the whole of the active medicines used in this disease. These are.

1st Evacuents by bloodletting and purging
2 Blisters.
3 Expectorants
4 Sudorifics
And lastly Opiates

To these should probably be added tonics particularly the peruvian bark which it is frequently necessary to prescribe when Pneumonia assumes the form of an intermittant the bark when prescribed is to be given in the apyrexia and at the intervals pain.

The antiphlogistic regimen is to be strictly adhered to, so long as there are

sym

symtoms of violent reaction or prostration.—

1st In Pneumonia, blood-letting is of the first consequence and the first medicine to be prescribed, in an early stage of the disease, it should be carried to the extent of twelve, sixteen, or twenty ounces, according to the age, habit, or strength of the patient, or violence of disease. Young patients, and those who previous to the attack were weak, need smaller evacuations by blood-letting, the bleeding should be repeated in pneumonia at least once every day so long as there are symtoms of considerable pyrexia. The first bleeding in all cases of Pneumonia whether attended with billious discharges or not, should be immediately followed by a purge, which may consist of either Jallap and callomel, Epsom salt, Glauber salt, Cream of Tartar, or Castor Oil; if the fever and pain are great, one of the neutral salts or Castor Oil is the most pro-

per

purge, being the lest irritating to the system, but frequently the nausea produced by them is so great, they are rejected by the stomach before they act as a cathartic, in this case Jallap and Calomel, and an enema should be had recourse to. I have seen great benefit arise, from the exhibition of some purgative medicine every other day in this disease; and this is never to be neglected in cases attended with billious symtomes.

2d Blisters. It has been the practice of many Phisicians to apply a blister to the side in all cases of Pneumonia after the first bleeding, especially if there is pain in the side, without any regard to the violence of the disease; In cases of moderate febrile action produced by a simple inflammation of the pleura without much affection of the lungs, or if the inflammation of the lungs is slight, this frequently is all that

that is necessary, but in cases of violent reaction and extensive inflamation it is but adding "fuel to the flame," blisters should never be applyed in very violent cases untill considerable evacuations by blood-letting have been used.

Blisters when applyed, should be placed as near the affected part as possible, When the pains shoot from the sternum to the spine, and from the peculiar sensation of tention in the breast, accompanied with great difficulty of breathing we have reason to believe the mediastinum and lungs are principally affected, blisters are to be laid on the back between the shoulders in thus applying them, we avail ourselves of both continuity and contiguity with the affected parts and thereby more easily

easily obtain the desired affect of translating the inflammatory action to the skin and muscles, from the thoracic viscera. It is in some cases of service to continue the application of a blister to the same part for some time, or rather by renewing the blister to produce a perpetual irritation.

3d Our next set of medicines are those which have been termed by Dr Cullen Expectorants, which undoubtedly act by their stimulating effect, and probably by producing a new and different action in the diseased part; what seems an evidence of this is, if they are for a short time laid aside after being used, expectoration soon becomes again difficult and symptoms of an increase of diseased action recurs. The principal medicines of this denomination are

1st Certain preparations of Antimony given in nauseating doses, 2d Vapours of warm water or vinegar inhaled into the lungs, 3d Calomel exhibited in small doses, 4th Gum-Ammoniac. Volatile alkali has been prescribed for this purpose in advanced stages of the disease when the inflammatory symptoms have somewhat abated.—

Large quantities of mucilaginous drinks given by small doses frequently repeated, greatly relieve the irritation of the larynx and thereby the coughing, which is frequently so distressing to the patient.

4th Sudorifics. After considerable evacuations by blood-letting, and the most violent symptoms have subsided, medicines that have a tendency to produce a discharge from the skin, frequently bring Pneumonia to a favourable crisis. The medicines generally

prescribed

prescribed for this purpose are —
1st Combinations of Opium and Specacuanha
2d Combinations of Opium and tartarized Antimony, It has heretofore been often recommended to prescribe these medicines whilst the patient is warm in bed, giving to drink at the same time tepid drink; that the patient should be kept comfortably warm in bed, I have no doubt; but it is contrary to my ideas of the treatment of this or any other inflammatory affection, to accumulate the heat of the body by confining it by bed-clothes or heat of the apartment in which the patient is ~~[illegible]~~ — A combination of Nitre camphor and paregoric elixer is recommended by Dr Huxam as a useful diaphoretic in pleurisy. Seneka besides its other qualities is an excellent diaphoretic in Pneumonia. Antimonial is also sometimes prescribed as a sudorific in pneumonia.

5th Opiates. In an early stage of Pneumonia and so long as there are symtoms of violent inflammatory action, opiates are to be avoided, but in more advanced stages when evacuations by blood-letting and purging have been assiduously used, the violent febrile action has subsided "when the difficulty of breathing has abated and when the urgent symtom is a cough proving the chief cause of the continuance of the pain and want of sleep" they then should be employed and will be found to act like a charm.

The last and not the least difficult task in the treatment of this state of disease, is, when we have reduced morbid excitement in the system by the above mentioned remedies, to restore the patient to his former habits, and diet, for in doing this frequently from negligence in a Phisician, the obstinacy of patients, or foolish indulgence

indulgence of a Nurse, Convalescents from Pneumonia relapse: this can certainly be prevented by the prompt interference of a Physician in the diet and exercise of his patient. When the morbid excitement has been removed, and the patients appetite calls for food his diet should be at first of but gently stimulating aliment; or if highly stimulating diet is given it should be by small quantities frequently repeated.

The most stimulating aliment is sometimes necessary to overcome the remaining morbid excitement, this it does by inducing an healthy action, stronger than the morbid one.

The patient when convalescent should at first, make but gentle exertions in exercise, and not expose himself to damp or cold air or the danger of getting damp or wet feet.

These are the medicines that are to be used in an attempt to cure pneumonia by resolution, but when we have failed, and symptoms of suppuration

appear

appear a different method of treatment is to be adopted. When a collection of matter in the thorax is evident, by a tumor pointing outwards, it should be discharged by an opening, the patient is to be supported through the discharge by a nourishing diet, when the discharge begins to abate Salivation will promote the healing of the ulcer.

When gangrene has taken place, all that can be done by a Physician is to anounce to the friends of his patient that deposolution is at hand.

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Bilious Pneumony

1809

An Essay &c.